
Fact Sheet: Clean-burning, efficient cookstoves research at the Engines and Energy Conversion Laboratory, Colorado State University

- Roughly 2.4 billion people in the world use wood or dung stoves for cooking, leading to many environmental and health problems. Most of these people also lack electricity.
- Students at Colorado State's Global Innovation Center for Energy, Environment, and Health – a program in the College of Business and the College of Engineering – have developed a technology to address these problems simultaneously with a single product. The product is a clean burning cook stove that also generates electricity by converting wasted thermal energy.
- The stove reduces fuel consumption through the use of an engineered combustion chamber known as a rocket elbow, which burns the wood or dung more efficiently. Through more complete combustion, and the use of a chimney, indoor air quality is dramatically improved for the household.
- The most novel feature of the stove is its ability to generate electricity through a thermoelectric generator that captures waste heat from the stove and converts a small fraction (10-20 Watts) directly into electricity. This electricity is stored in a battery to be used at night for lighting, radio, or a small television.
- Engineering and business students have visited India, Nepal and Nicaragua testing the stoves. Business students have worked with engineering students on business plans to address market need, build production and distribution systems and eventually make any enterprises associated with making the stoves profitable.
- To address these great global challenges of poverty, environmental degradation and poor health, the College of Business has created a new 18-month Master of Science in Business Administration degree in Global Social and Sustainable Enterprise that will teach students to use entrepreneurial, sustainable approaches.